

RAW SEQUENCE LISTING

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Application Serial Number: 10/511, 244
Source: PCT
Date Processed by STIC: 02/02/2006

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/511,244

DATE: 02/02/2006

TIME: 12:34:04

Input Set : A:\UCSD1420-1.ST25.txt

Output Set: N:\CRF4\02022006\J511244.raw

3 <110> APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
 4 THE UNIVERSITY OF BRITISH COLUMBIA
 5 SAREEN, Dipti
 6 NEWTON, Gerald L.
 7 FAHEY, Robert C.
 8 BUCHMEIER, Nancy
 9 STEFFEK, Micah
 10 AV-GAY, Yossef
 11 RAWAT, Mamta
 12 KOLEDIN, Teresa
 14 <120> TITLE OF INVENTION: METHODS OF USE OF THE ENZYMES OF MYCOTHIOL SYNTHESIS
 16 <130> FILE REFERENCE: UCSD1420-1
 18 <140> CURRENT APPLICATION NUMBER: US 10/511,244
 C--> 19 <141> CURRENT FILING DATE: 2004-10-13
 21 <150> PRIOR APPLICATION NUMBER: PCT/US 03/11539
 22 <151> PRIOR FILING DATE: 2003-04-15
 24 <150> PRIOR APPLICATION NUMBER: US 60/373,890
 25 <151> PRIOR FILING DATE: 2002-04-19
 27 <150> PRIOR APPLICATION NUMBER: US 60/373,079
 28 <151> PRIOR FILING DATE: 2002-04-15
 30 <160> NUMBER OF SEQ ID NOS: 49
 32 <170> SOFTWARE: PatentIn version 3.1
 34 <210> SEQ ID NO: 1
 35 <211> LENGTH: 1236
 36 <212> TYPE: DNA
 37 <213> ORGANISM: Mycobacterium smegmatis
 39 <400> SEQUENCE: 1

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42	ctttcgaca gcgctgatcg ccaggtccgg cccgtcacac cgggaccgac cgcaaccatg	120
44	tacgtgtcg gcatcaccccc atacgacgcg acccatctgg gtcacgccc gacctatctg	180
46	acgttcgacc tggtgcatcg cctatggctc gacgccggac acaccgtgca gtacgtccag	240
48	aacgtcacccg acgtggacga cccgttgttc gagcgtgtg agcgcgacgg catcgactgg	300
50	cggacgctgg gcgaccgcga gacgcagctg ttccgtgagg acatggccgc gttgcgcgtg	360
52	ctgccccccgc acgactacgt cggcgcgacc gacgcgatcg ccgaggctgt cgagatggc	420
54	gagaagctgc tggcctcggg tgcggcgtac atcgtcgagg acgcccggata ccccgacgtg	480
56	tacttcccgcg ccgacccac cgcgcagttc gggtacgagt ccggctacga ccgcgacacc	540
58	atgctcacgt tggtcgccga acgcggcggg gacccggacc gcccgggcaa gtccgatcaa	600
60	ctcgacgcgt tgctgtggcg cggcgcgacc cctggcgagc ccagctggcc ttccgcgtt	660
62	ggccggggcc ggcccggtg gacacgtggaa tgttccggca tgcgcctgac gcggatcggc	720
64	accggcctcg acatccaggg cggcggcagc gacctcatct tcccgccacca cgagtattcg	780
66	gccgcgcacg ccgaatccgt caccggtag cgacgattcg cacgcccacta cgtgcacacc	840
68	ggcatgatcg gctggacgg ccacaagatg agcaagagcc gcggcaacct ggtccctgg	900
70	tcgcagttgc gcgcccaggg cgtcgaccgg tcggcgatcc ggctcggcct gttctccggg	960

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72	cactaccgcg	aggaccggtt	ctggagcaac	gaggttctcg	acgaggccaa	cgcgcgactc	1020										
74	gcgcgggtggc	gcagtgccac	cgattgccc	gaggcgcccc	atgcgaccga	cgtgatcgcg	1080										
76	cgcgtccggc	agtacctggc	cgatgacctg	gacacgcccga	aagcgcttgc	cgcaactcgat	1140										
78	ggttgtgtta	ccgacgcgct	gtcctacggt	gggcacgaca	ccgagtcgccc	gcggctcggt	1200										
80	gccaccaccg	tcgacgcgtt	gctgggtgtg	gacctc			1236										
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84	<211>	LENGTH:	412														
85	<212>	TYPE:	PRT														
86	<213> ORGANISM: Mycobacterium smegmatis																
88	<400> SEQUENCE: 2																
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91	1																15
94	Pro	Ala	Leu	Arg	Leu	Phe	Asp	Ser	Ala	Asp	Arg	Gln	Val	Arg	Pro	Val	
95																30	
98	Thr	Pro	Gly	Pro	Thr	Ala	Thr	Met	Tyr	Val	Cys	Gly	Ile	Thr	Pro	Tyr	
99																45	
102	Asp	Ala	Thr	His	Leu	Gly	His	Ala	Ala	Thr	Tyr	Leu	Thr	Phe	Asp	Leu	
103																60	
106	Val	His	Arg	Leu	Trp	Leu	Asp	Ala	Gly	His	Thr	Val	Gln	Tyr	Val	Gln	
107	65															80	
110	Asn	Val	Thr	Asp	Val	Asp	Asp	Pro	Leu	Phe	Glu	Arg	Ala	Glu	Arg	Asp	
111																95	
114	Gly	Ile	Asp	Trp	Arg	Thr	Leu	Gly	Asp	Arg	Glu	Thr	Gln	Leu	Phe	Arg	
115																110	
118	Glu	Asp	Met	Ala	Ala	Leu	Arg	Val	Leu	Pro	Pro	His	Asp	Tyr	Val	Ala	
119																125	
122	Ala	Thr	Asp	Ala	Ile	Ala	Glu	Val	Val	Glu	Met	Val	Glu	Lys	Leu	Leu	
123																140	
126	Ala	Ser	Gly	Ala	Ala	Tyr	Ile	Val	Glu	Asp	Ala	Glu	Tyr	Pro	Asp	Val	
127	145																160
130	Tyr	Phe	Arg	Ala	Asp	Ala	Thr	Ala	Gln	Phe	Gly	Tyr	Glu	Ser	Gly	Tyr	
131																175	
134	Asp	Arg	Asp	Thr	Met	Leu	Thr	Leu	Phe	Ala	Glu	Arg	Gly	Gly	Asp	Pro	
135																190	
138	Asp	Arg	Pro	Gly	Lys	Ser	Asp	Gln	Leu	Asp	Ala	Leu	Leu	Trp	Arg	Ala	
139																205	
142	Glu	Arg	Pro	Gly	Glu	Pro	Ser	Trp	Pro	Ser	Pro	Phe	Gly	Arg	Gly	Arg	
143																220	
146	Pro	Gly	Trp	His	Val	Glu	Cys	Ser	Ala	Ile	Ala	Leu	Thr	Arg	Ile	Gly	
147	225															240	
150	Thr	Gly	Leu	Asp	Ile	Gln	Gly	Gly	Ser	Asp	Leu	Ile	Phe	Pro	His		
151																255	
154	His	Glu	Tyr	Ser	Ala	Ala	His	Ala	Glu	Ser	Val	Thr	Gly	Glu	Arg	Arg	
155																270	
158	Phe	Ala	Arg	His	Tyr	Val	His	Thr	Gly	Met	Ile	Gly	Trp	Asp	Gly	His	
159																285	
162	Lys	Met	Ser	Lys	Ser	Arg	Gly	Asn	Leu	Val	Leu	Val	Ser	Gln	Leu	Arg	
163																300	
166	Ala	Gln	Gly	Val	Asp	Pro	Ser	Ala	Ile	Arg	Leu	Gly	Leu	Phe	Ser	Gly	

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167 305 310 315 320
 170 His Tyr Arg Glu Asp Arg Phe Trp Ser Asn Glu Val Leu Asp Glu Ala
 171 325 330 335
 174 Asn Ala Arg Leu Ala Arg Trp Arg Ser Ala Thr Ala Leu Pro Glu Ala
 175 340 345 350
 178 Pro Asp Ala Thr Asp Val Ile Ala Arg Val Arg Gln Tyr Leu Ala Asp
 179 355 360 365
 182 Asp Leu Asp Thr Pro Lys Ala Leu Ala Ala Leu Asp Gly Trp Cys Thr
 183 370 375 380
 186 Asp Ala Leu Ser Tyr Gly Gly His Asp Thr Glu Ser Pro Arg Leu Val
 187 385 390 395 400
 190 Ala Thr Thr Val Asp Ala Leu Leu Gly Val Asp Leu
 191 405 410
 194 <210> SEQ ID NO: 3
 195 <211> LENGTH: 1242
 196 <212> TYPE: DNA
 197 <213> ORGANISM: Mycobacterium tuberculosis
 199 <400> SEQUENCE: 3
 200 atgcagtctgt ggtattgcc acccggttccg gtgttgcgg gacgaggccc gcagactacgg 60
 202 ctgtacgaca ggcgcgaccg gcaggtccgt ccgggtggcgc ccggatctaa ggcaccatcg 120
 204 tacgtctcgcc ggtatcacgccc ctacgacgccc acgcatactgg gccatgctgc caccatgtg 180
 206 acgttcgacc tgatccatcg gctgtggctg gatctcggtc atgaattgca ctatgtccag 240
 208 aacatcaccg acatcgacga tccactattt gagcgcgcgg atcgcgacgg tgcgactgg 300
 210 cgtgaccttg cccaagccga ggtcgccttg ttctgtgagg acatggcggc gctgcgggtg 360
 212 ctaccaccgc aagactacgt gggggccacc gaagcgattt ctgaaatggt cgagctcatc 420
 214 gaaaaaatgc tggcgtgcgg ggcggcctat gtcatagacc gggaaatggg agagtaccag 480
 216 gacatctact tccgcgctga cgccaccctg cagttcggtc acgagtcagg gtatgaccgt 540
 218 gacaccatgc tgcggctgtc cgaggaacgt ggcggcgtc cgcggcggcc cggcaagagc 600
 220 gacgaactcg acgcgttggt gtggcggggc ggcggccccg gtgagcccg ctggccgtcc 660
 222 ccgttcgggc ctggccggcc aggctggcat gtcgagtgcg cagccatcg cgtcagtcgt 720
 224 atcggaaagcg gcctcgacat ccagggcggt ggtagcgatc tgatcttcc gcaccacgag 780
 226 ttacccgctg cgcacgcccga atgtgtcagc ggcgaacggc gattcgcgcg gcactacgtg 840
 228 catgcccggga tgatcggtcg ggcggccac aagatgtcaa agagccgcgg caacctcgta 900
 230 ctgggtgtcg ggctcggtc gcaggacgtt gagccatcg gggttcggct ggggttgctc 960
 232 gccggacact accgagccga tcgggtctgg agccagcagg tgcttgcacga ggcgaccgccc 1020
 234 cggctgcacc gttggcgcac cgcaaccgca cttcccgccg gtccggccgc agttgacgtt 1080
 236 gtcgctcggt tgcccgctta cctggccgac gatctcgata cgcggccggc gattcgcgcg 1140
 238 ctggatgggtt gggtcaccga tgccgtggag tacggcggcc acgatgcggg ggcgccgaag 1200
 240 ttgggtggcga cggcgatcg tgccctgctc ggggtggacc tg 1242
 243 <210> SEQ ID NO: 4
 244 <211> LENGTH: 414
 245 <212> TYPE: PRT
 246 <213> ORGANISM: Mycobacterium tuberculosis
 248 <400> SEQUENCE: 4
 250 Met Gln Ser Trp Tyr Cys Pro Pro Val Pro Val Leu Pro Gly Arg Gly
 251 1 5 10 15
 254 Pro Gln Leu Arg Leu Tyr Asp Ser Ala Asp Arg Gln Val Arg Pro Val
 255 20 25 30
 258 Ala Pro Gly Ser Lys Ala Thr Met Tyr Val Cys Gly Ile Thr Pro Tyr

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259	35	40	45	
262	Asp Ala Thr His Leu Gly His Ala Ala Thr Tyr Val Thr Phe Asp Leu			
263	50	55	60	
266	Ile His Arg Leu Trp Leu Asp Leu Gly His Glu Leu His Tyr Val Gln			
267	65	70	75	80
270	Asn Ile Thr Asp Ile Asp Asp Pro Leu Phe Glu Arg Ala Asp Arg Asp			
271	85	90	95	
274	Gly Val Asp Trp Arg Asp Leu Ala Gln Ala Glu Val Ala Leu Phe Cys			
275	100	105	110	
278	Glu Asp Met Ala Ala Leu Arg Val Leu Pro Pro Gln Asp Tyr Val Gly			
279	115	120	125	
282	Ala Thr Glu Ala Ile Ala Glu Met Val Glu Leu Ile Glu Lys Met Leu			
283	130	135	140	
286	Ala Cys Gly Ala Ala Tyr Val Ile Asp Arg Glu Met Gly Glu Tyr Gln			
287	145	150	155	160
290	Asp Ile Tyr Phe Arg Ala Asp Ala Thr Leu Gln Phe Gly Tyr Glu Ser			
291	165	170	175	
294	Gly Tyr Asp Arg Asp Thr Met Leu Arg Leu Cys Glu Glu Arg Gly Gly			
295	180	185	190	
298	Asp Pro Arg Arg Pro Gly Lys Ser Asp Glu Leu Asp Ala Leu Leu Trp			
299	195	200	205	
302	Arg Ala Ala Arg Pro Gly Glu Pro Ser Trp Pro Ser Pro Phe Gly Pro			
303	210	215	220	
306	Gly Arg Pro Gly Trp His Val Glu Cys Ala Ala Ile Ala Leu Ser Arg			
307	225	230	235	240
310	Ile Gly Ser Gly Leu Asp Ile Gln Gly Gly Ser Asp Leu Ile Phe			
311	245	250	255	
314	Pro His His Glu Phe Thr Ala Ala His Ala Glu Cys Val Ser Gly Glu			
315	260	265	270	
318	Arg Arg Phe Ala Arg His Tyr Val His Ala Gly Met Ile Gly Trp Asp			
319	275	280	285	
322	Gly His Lys Met Ser Lys Ser Arg Gly Asn Leu Val Leu Val Ser Ala			
323	290	295	300	
326	Leu Arg Ala Gln Asp Val Glu Pro Ser Ala Val Arg Leu Gly Leu Leu			
327	305	310	315	320
330	Ala Gly His Tyr Arg Ala Asp Arg Phe Trp Ser Gln Gln Val Leu Asp			
331	325	330	335	
334	Glu Ala Thr Ala Arg Leu His Arg Trp Arg Thr Ala Thr Ala Leu Pro			
335	340	345	350	
338	Ala Gly Pro Ala Ala Val Asp Val Val Ala Arg Val Arg Arg Tyr Leu			
339	355	360	365	
342	Ala Asp Asp Leu Asp Thr Pro Lys Ala Ile Ala Ala Leu Asp Gly Trp			
343	370	375	380	
346	Val Thr Asp Ala Val Glu Tyr Gly Gly His Asp Ala Gly Ala Pro Lys			
347	385	390	395	400
350	Leu Val Ala Thr Ala Ile Asp Ala Leu Leu Gly Val Asp Leu			
351	405	410		
354	<210> SEQ ID NO: 5			
355	<211> LENGTH: 404			

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Input Set : A:\UCSD1420-1.ST25.txt
Output Set: N:\CRF4\02022006\J511244.raw

356 <212> TYPE: PRT
357 <213> ORGANISM: Corynebacterium striatum
359 <400> SEQUENCE: 5
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362 1 5 10 15
365 Val Pro Leu Lys Leu Phe Asp Thr Ala Asp Gln Arg Val Lys Glu Val
366 20 25 30
369 Asp Thr Thr Pro Asp Ala Asn Gly Glu Val Gly Met Tyr Val Cys Gly
370 35 40 45
373 Ile Thr Pro Tyr Asp Ser Thr His Leu Gly His Ala Ala Thr Tyr Leu
374 50 55 60
377 Thr Phe Asp Leu Ala Gln Arg Gln Leu Leu Ala Asn Gly His Lys Val
378 65 70 75 80
381 His Tyr Val Gln Asn Ile Thr Asp Val Asp Asp Pro Leu Phe Glu Arg
382 85 90 95
385 Ala Glu Arg Asp Gly Val Asp Trp Arg Glu Leu Gly Thr Ser Gln Ile
386 100 105 110
389 Asn Leu Phe Arg Ser Asp Met Glu Ile Leu Ser Val Ile Pro Pro Cys
390 115 120 125
393 Asp Tyr Ile Gly Ala Met Glu Ser Val Asp Glu Val Ile Ala Met Val
394 130 135 140
397 Gln Gln Leu Leu Asp Ala Gly Ala Ala Tyr Glu Leu Asp Gln Gly Asp
398 145 150 155 160
401 Ile Tyr Ala Ser Ile Asp Ala Thr Glu Gln Phe Gly Tyr Glu Ser Asn
402 165 170 175
405 Leu Asp Arg Ala Thr Met Glu Glu Tyr Phe Ala Glu Arg Gly Gly Asp
406 180 185 190
409 Pro Asp Arg Glu Gly Lys Arg Asp Pro Leu Asp Ala Leu Val Trp Arg
410 195 200 205
413 Gly His Arg Glu Gly Glu Pro Ala Trp Asp Ser Pro Phe Gly Pro Gly
414 210 215 220
417 Arg Pro Gly Trp His Val Glu Cys Ser Ala Ile Ala Thr Asn Arg Leu
418 225 230 235 240
421 Gly Ser His Phe Ala Ile Gln Gly Gly Ser Asp Leu Ala Phe Pro
422 245 250 255
425 His His Glu Phe Ser Ala Ala His Ala Glu Ala Ala Leu Lys Val Glu
426 260 265 270
429 Arg Met Ala Gly His Tyr Val His Ala Gly Met Ile Ala Leu Asp Gly
430 275 280 285
433 Val Lys Met Ser Lys Ser Leu Gly Asn Leu Val Phe Val His Lys Leu
434 290 295 300
437 Ser Glu Ala Gly His Asp Pro Ser Ala Ile Arg Leu Ala Val Phe Ala
438 305 310 315 320
441 Gly His Tyr Arg Glu Asp Arg Asp Phe Ser Asp Ala Ile Leu Ala Glu
442 325 330 335
445 Ala Glu Glu Arg Leu Thr Arg Trp Arg Glu Gln Leu Ala Gly Glu Val
446 340 345 350
449 Ser Glu Ala Glu Ala Thr Glu Val Val Asp Lys Leu Arg Ala Ile Leu
450 355 360 365

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 02/02/2006
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Input Set : A:\UCSD1420-1.ST25.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:8; Xaa Pos. 1,2,13

VERIFICATION SUMMARY

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Input Set : A:\UCSD1420-1.ST25.txt

Output Set: N:\CRF4\02022006\J511244.raw

L:19 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:616 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0

L:1843 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:26